FLIGHT

The AIRCRAFT ENGINEER & AIRSHIPS

First Aero Weekly in the World

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport

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Flight

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DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list :—

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Nov. 28 .... **Inst.Ae.E. visit to Shipping, Engineering and Machinery Exhibition, Olympia.**

Dec. 3 .... **Prof. B. Melville Jones, A.F.C., A.F.R.Ae.S. "The Control of Stalled Aeroplanes," before R.Ae.S.**

Dec. 15 .... **M. E. Dewoitine. "The Advantages of Metal Construction," before Inst.Ae.E.**

Dec. 16 .... **Air Vice-Marshal Sir W. Sefton Brancker. "Air Communications in the Middle East," before Royal United Service Institution.**

Dec. 17 .... **Mr. A. J. Cobham. "Long-Distance Aeroplane Flights," before R.Ae.S.**

1926

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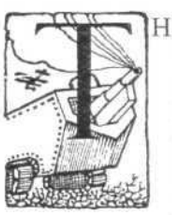
Jan. 26 .... **Lieut. Olechnovitch. "The Care and Maintenance of Tools as an Important Factor in Workshop Routine," before Inst.Ae.E.**

To their Majesties King George and Queen Mary and the members of the Royal Family, FLIGHT offers its respectful sympathy in the great loss which they and the Nation have sustained in the passing of the greatly beloved Queen Mother.

EDITORIAL COMMENT.



THE Cairo – Khartum – Kano – Khartum – Cairo flight has been successfully accomplished. The three de Havilland 9A aeroplanes and their engines have, as far as can be gathered, acquitted themselves creditably, and in spite of the difficult climatic conditions encountered, have given no serious trouble. Considering that the D.H.9A's are of a design now some eight years old, and that the construction is mainly wood, the 6,000 miles' flight mainly under tropical conditions is an eloquent testimony to British workmanship. It has been argued from time to time that for use in climates such as that obtaining over the greater portion of the route followed by Sqdn.-Ldr. Coningham and his companions, all-metal construction is necessary. Although we quite believe that in a few years' time all-metal construction will be the rule rather than the exception, it must be admitted that so far wood construction has not shown itself to be unsuitable, even under conditions which might be expected to reveal very rapidly any defects likely to develop. The Cairo–Kano flight is a case in point. Another instance is found in the use, a few degrees from the Equator, of Handley-Page "Hamiltons" for regular air services in Belgian Congo. After several months of operation these machines have not, we understand, shown any signs of deterioration under the tropical heat, and it would therefore appear that one is justified in assuming that, as far as present forms of construction are concerned, there is no need to await the coming of the all-metal aeroplane before air lines can be inaugurated

The Cairo–Kano Flight

in various parts of the British Empire, although doubtless the time will come when the metal machine will supplant the wooden one. In other words, if the change is to be made during the next few years, as we have little doubt it will, it will not be on account of the unsuitability of the wood machine, but because of the shortage of suitable timber in sufficient quantities.

To the crews of the three D.H.9A machines—Sqdn.-Ldr. Arthur Coningham, Flight-Lieut. H. W. Baggs, Flight-Lieut. H. V. Rowley, Flight-Sergt. Evans, Sergt. Kennedy, and Sergt. Grant—we offer heartiest congratulations on a most meritorious performance. The flight from Cairo to Kano and back is one of which they and the Royal Air Force may well be proud, and it has served, apart from the valuable lessons which it has doubtless taught the R.A.F., to demonstrate that, given the opportunity, the British Royal Air Force is capable of performances quite equal to anything accomplished by the airmen of other nations.

As regards the utility of a flight such as that just accomplished—which is, we are told, viewed by the Air Ministry as a "service cruise"—we think something much more than that should be read into it. It has linked up Nigeria with Egypt by air, and must thus have done a great deal of good in causing the white population of that outpost of Empire to feel less isolated and much closer in touch with the rest of the world—a fact the importance of which cannot readily be assessed. To those who believe in the future of the air, the flight has welded another link in the chain which shall one day—of that we have not the slightest doubt—bind together the far-flung parts of the British Empire. Already one can foresee the time when British air lines will spread their net the length and breadth of Africa, linking up Egypt and Nigeria, with connections to the French air terminus at Dakar and the Belgian air lines in the Congo, not to mention the line from Cairo to the Cape. If the flight upon which Mr. Cobham and his companions are at present engaged is successful, and there is no reason to doubt that it will be, the day when British aircraft will fly regularly from the Mediterranean to the Cape will have been brought appreciably nearer.

* * *

Aeroplanes in the Congo

This week we publish a brief account of the regular air services operated in Belgian Congo by the Sabena Company, using Handley-Page "Hamiltons" built in Belgium under licence by the S.A.B.C.A. company, and fitted with Rolls-Royce "Eagle" and Siddeley "Puma" engines. As far as can be gathered, the machines and engines have stood up extremely well to the trying climatic conditions, and we understand that the operating company has nothing but praise for its equipment. The service, which is at present a three-weekly one, has operated regularly since April, and there has been a most gratifying increase in the mails carried, which on the last flight of which statistics are available reached the imposing figure of 2,026 kilos. (4,500 lbs.). This was on the flight made by two of the machines from Leopoldville to Luebo on August 7. As the carrying capacity of one machine has been found insufficient, the last few trips have been made by two machines each way. In addition to the quantity of mails making this necessary, there is extra safety in the simultaneous flying of two machines, since in the very remote event of one being forced to land the other can either alight and give assistance, or if that be impossible, it can proceed to the nearest aerodrome with exact information as to the whereabouts of the other machine. So far, we understand, there has not been a single forced landing on the Kinshasa-Luebo route. It might be argued that it is rather uneconomical to send the two machines on the same day, and that a better arrangement would be to send the two machines at 10 days' intervals. The answer to that is that the machines make connection with the steamers to and from Belgium, whose sailings occur at intervals of three weeks, and that it is, therefore, at those times that the greatest demand for the air mail occurs. The trip from Leopoldville to Luebo by river takes something like 12 days. By air it is made in one day, so that a saving of no less than 11 days is effected. As an instance of demonstrating real utility of air travel, the Congo service would be difficult to beat, and it can be taken as auguring well for the time when British air lines extend beyond their present confined limits. That British machines and engines are used is cause for satisfaction, and we are extremely glad to be able to record that Belgium and Great Britain are working together in such happy fashion in a phase of pioneer work that seems likely to have very important results. We understand that there is considerable possibility of the Congo services being extended northwards to Stanleyville, when at some future date the linking up with a British line between Egypt and Nigeria would be greatly facilitated. Doubtless also, if and when we establish a Cairo-Cape air line, the Belgian service will be linked up with that.

* * *

R.Ae. Club Monthly Meetings

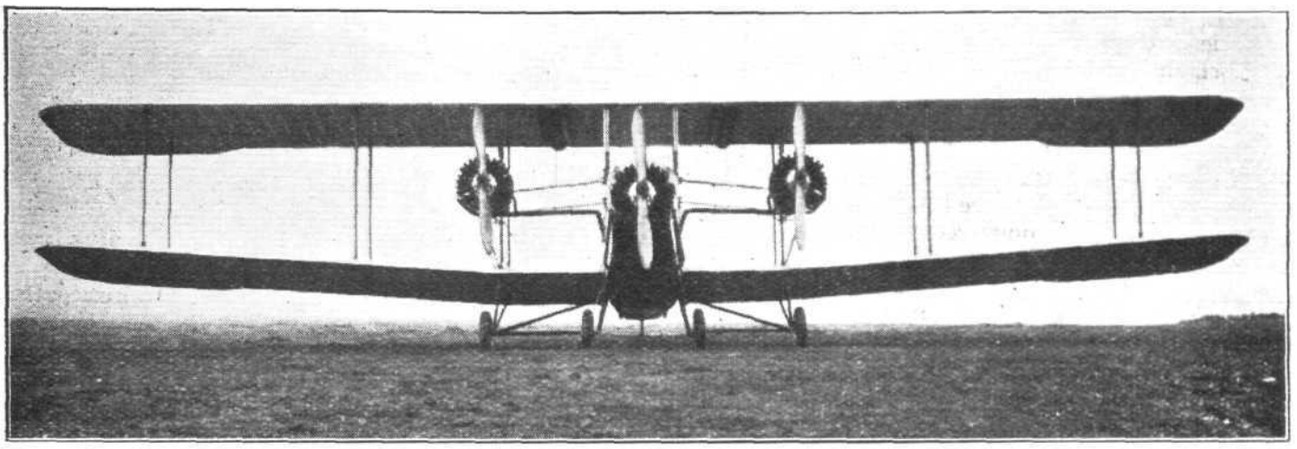
To-night, November 26, should prove a red-letter day in the history of the Royal Aero Club, since the first of a series of monthly House Dinners followed by a discussion is being held. In the past a discussion of aviation matters has been mainly confined to the meetings of the Royal Aeronautical Society and the Institution of Aeronautical Engineers. That the Royal Aero Club, the body responsible for the sporting side of aviation in Great Britain, should also hold discussions does not appear hitherto to have occurred to anyone. We do not know with whom the idea originated, but it is, we think, a very excellent one, and should provide considerable interest, not to say entertainment. The informal character of the dinners should attract many who may not care for the more formal and always technical debates at the other two societies, and if the Royal Aero Club decides, as we hope it will, to discuss mainly non-technical subjects, a sphere should be covered which has not in the past received much attention. The sporting side of aviation, the side with which the Club is chiefly concerned, should provide excellent subjects, and for a start various problems of the light 'plane club movement might be suggested. There are probably few subjects on which there is a greater variety of opinions, and some interesting views might be put forward. To-night Mr. C. R. Fairey will start the ball rolling by opening a debate on "American Aviation." The subject is very much to the fore at the moment, and a discussion of it can scarcely fail to be of more than passing interest. The Duke of Sutherland, Chairman of the Royal Aero Club, will preside.

FLIGHT

AIR LINES IN BELGIAN CONGO

Successful Service with Handley-Page "Hamiltons."

IN view of the widespread interest in three-engined aeroplanes for commercial air services, and the claims advanced for this type of machine on the score of reliability and immunity from forced landings, it is thought that a few notes on what is, so far as any British type of three-engined machine is concerned, the only service of which data are available, may be of assistance in giving an indication of the manner in which this type of machine may reasonably be expected to fulfil the hopes of those who are pinning their faith on it for the solution of the reliability and safety problem.



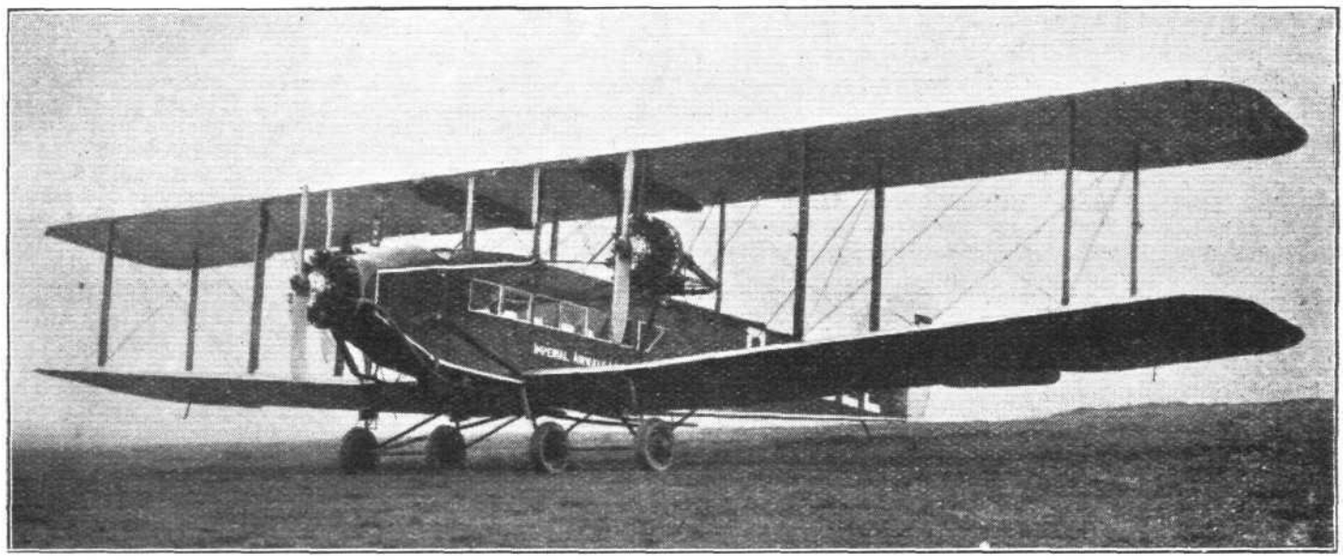
The Handley-Page "Hampstead" is fitted with three Armstrong-Siddeley "Jaguar" engines. The machines in regular use in Belgian Congo have a Rolls-Royce "Eagle" in the nose and two Siddeley "Pumas" on the wings. This front view shows how the wing engines have been placed farther out so as to get the propeller discs clear of one another.

It will be recollected that in the early part of this year a three-engined aeroplane of the Handley-Page "Hamilton" type, fitted with one Rolls-Royce "Eagle" in the nose of the fuselage and two Siddeley "Pumas" on the wings, successfully accomplished the flight from Brussels to Kinshasa in Belgian Congo. The machine was built under licence in Belgium by the S.A.B.C.A. company, as were also a number of others of the same type, sent out to Congo by steamer. In charge of the expedition that flew to Congo was Lieut.-Aviateur E. Thieffry, whose pilot was M. Roger. The third occupant of the machine was the mecanicien, De Bruycker. The flight was successfully accomplished, although adverse weather conditions were encountered almost throughout. The flight started from Brussels on February 12, 1925, and Kinshasa was reached on April 3, the distance of something like 8,500 km. (5,300 miles) having been covered in approximately 75 flying hours, a performance which, in view of the exceedingly difficult country over which the greater part of the flight was made, was regarded on all sides as a most meritorious one. The regular air service in Congo was inaugurated almost at once, and has been carried out with good regularity since.

At the moment we understand that six Belgian-built Handley-Page "Hampsteads" are in service by the Sabena company who operate the Congo air line, four being in regular use, and the other two held in reserve. The air route, which is divided into two main sections, has been so planned as to connect with the steamers arriving from and leaving for Belgium, and it is claimed that the average saving in time effected by using the air service is 14 days for the more distant points on the air route.

THE HANDLEY-PAGE "HAMPSTEAD": Side view.

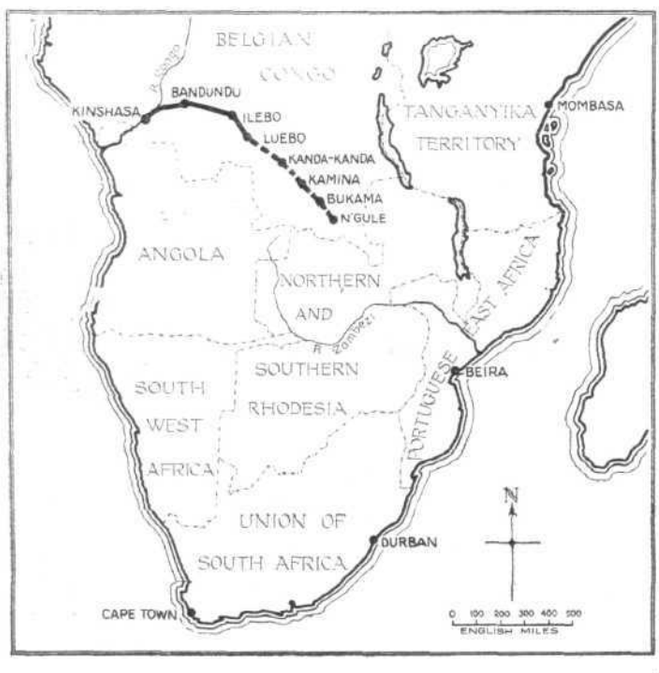
The first portion of the Belgian Congo air route to be opened (the preliminary experimental flights having been accomplished some time previously) was between Kinshasa (Leopoldville) and Luebo, a distance of 850 kms. (530 miles). This section was officially inaugurated on April 9, when the Handley-Page *O-BAHN made the first regular flight. The* second section of the route, Luebo to Gulé, is slightly shorter



THE HANDLEY-PAGE " HAMPSTEAD " : Three-quarter front view. The cabin has seating accommodation for 14 passengers.

being 800 kms. (500 miles) long. On the Kinshasa-Luebo section intermediate landings are made at Bandundu and Ilebo, while on the Luebo-Gulé section the machines call at Kanda-Kanda and Bukama.

It may be recollected that originally (from 1919 to 1923) the Sabena company operated an air line between Kinshasa and Stanleyville, but although from the technical point of view the service was proved practicable, it was found that the places served were not of sufficient importance, being administrative rather than commercial centres, to make the service a commercial success. The present service, however, joins places on the lower Congo river to Katanga, Elisabethville, etc., thus linking Leopoldville up with the interior, and with the railway from Northern Rhodesia, and forming a very useful link between the relatively accessible lower reaches of the Congo and the commercially important districts in the interior which are extremely difficult to reach by present means of transport. This applies more particularly to the second stage of the Congo air line—that from Luebo to Katanga—which is usually reached by travellers from Belgium, either *via* Cape Town or *via* Beira in Portuguese East Africa, both very indirect routes as regards distance, but the only ones possible because of the railway connections which they afford. The saving in time made possible by the Congo air route is such that relatively high fares can be charged without the overall cost exceeding that of the present steamer and rail route, and consequently the air line has an excellent chance of proving itself a really paying proposition.



To give some indication of the saving in time possible by using the air route, it may be stated that over the Antwerp-Cape Town-Sakania-Elisabethville route the time taken is usually 24 days. By steamer to Matadi and thence by air to Gulé the journey takes about 12 days, so that nearly a fortnight is saved by using the air route. Even for local traffic from Kinshasa to Luebo, the easiest part of the route as regards present forms of transport, the saving of time is important, being accomplished in one day by air while taking 12 days by river. From Luebo to Katanga the air line has, practically speaking, no competition except for slow-moving heavy goods which cannot be carried by air.

Organisation of the Route

It will readily be realised that the preparation of landing grounds is a difficult business in Congo, and that, consequently, practical immunity from forced landings is an essential condition of success. It was for this reason that the Sabena Company chose Handley-Page " Hamiltons " for their service, as these machines are able to fly on any two of their three engines. It might be asked, since the first stage of the route, from Kinshasa to Luebo, follows the rivers, why seaplanes were not used. The answer to that is that from Luebo to Gulé the air service strikes right away from the rivers, and that thus seaplanes could not have been used for this section. Consequently, in order to avoid a duplication of types, the land machine was chosen for the whole route.

At Kinshasa, which may be regarded as the headquarters of the service, there is a large hangar, 33 m. by 44 m., permanent brick buildings with quarters for the personnel, offices, etc., and, of course, fuel storage. The aerodrome itself is of about 100 hectares (approximately 250 acres) in area, and is situated a few miles out of Leopoldville. A similar establishment is found at Luebo. The route followed is along the River Congo up to Kwamouth, and thence along the River Kasai to Luebo. Intermediate landing-grounds are provided at Bandundu (at the confluence of the Rivers Kasai and Kwango) and Ilebo, near the mouth of the River Sankuru. At the two latter places establishments of smaller importance are found, calls being made there mainly for the purpose of refuelling. The distance between Kinshasa and Luebo is about 850 km. (530 miles), and is covered in an average flying time of seven hours.

The second stage—from Luebo to Gulé—is one of 800 kms. (500 miles), and intermediate landing-grounds are to be found at Kanda-Kanda and Bukama. This route lies entirely over land, and follows the automobile track as far as Luluaburg, then the railway which is in course of construction from Katanga towards Dibaya. The terminus is at Gulé (or N'Gule), on the Kansenia Plateau, which is some 1,500 m. above sea level. This second stage of the route is barely finished, and statistics relating to it are therefore not yet available. On the Kinshasa-Luebo section, however, the three-weekly service has been running with excellent regularity since April, and the following particulars will be found of interest. On April 25 the machine O-BAHN made the flight Kinshasa-Luebo in 6 hours 45 minutes, carrying five passengers and 190 kgs. (420 lbs.) of mails. The return journey to Kinshasa was made on April 28 in 6 hours 40 minutes.

On June 6 two machines, O-BAHN and O-BAHP, made the flight to Luebo in seven hours, carrying 11 passengers between them. The return journey was made on June 9, the two machines making the flight in 6 hours 25 minutes and 6 hours 40 minutes respectively. According to the statistics available, it would appear that the practice is to send two machines in each direction, the amount of mails to be carried exceeding the capacity of one machine. Also extra safety is provided by two machines flying together. Thus, on June 26 the two machines flew from Kinshasa to Luebo in eight hours, carrying between them two passengers and 1,349 kgs. (3,000 lbs.) of mails. The return journey was made on June 29 in 6 hours 20 minutes, there being then only 27·3 kgs. (60 lbs.) of mails and but one passenger. On the July 17 trip from Kinshasa to Luebo the mail had increased to 1,973 kgs. (4,340 lbs.), and on August 7 this figure had reached 2,026 kgs. (4,460 lbs.). Finally, on August 10 the first cargo of goods was carried from Luebo to Kinshasa, the weight being 500 kgs. (1,100 lbs.).

So far it would appear that by far the most important item in the air service is the carrying of mails, which are assured of a very considerable saving in time, but in time doubtless the passenger traffic will increase.

THE ROYAL AERO CLUB OF THE U.K.

OFFICIAL NOTICES TO MEMBERS

FINANCE COMMITTEE

THE following members attended the Finance Committee held on Wednesday, November 18, 1925: Lieut.-Col. F. K. McClean, A.F.C., in the chair, F. Handley Page, J. Stewart Mallam, and H. E. Perrin, Secretary.

HOUSE COMMITTEE

THE following members attended the House Committee held on Monday, November 16, 1925: Ernest C. Bucknall, in the chair, Capt. F. P. Dickson, Major S. V. Sippe, D.S.O., and H. E. Perrin, Secretary.

Candidates for Election.—The Committee considered the applications for membership.

Monthly Dinner.—The arrangements for the first monthly dinner to be held on Thursday, November 26, 1925, were considered and approved.

COMMITTEE MEETING

A MEETING of the Committee was held on Wednesday, November 18, 1925, when there were present: Lieut.-Col. F. K. McClean, A.F.C., in the chair, Air Vice-Marshal Sir W. S. Brancker, K.C.B., Ernest C. Bucknall, Lieut.-Col. M. O. Darby, Wing-Commander T. O'B. Hubbard, M.C., A.F.C., Lieut.-Col. M. O'Gorman, C.B., F. Handley Page, C.B.E., Major S. V. Sippe, D.S.O., and H. E. Perrin, Secretary.

Election of Members.—The following new members were elected:—

Charles Leslie Ferguson.
Fenton George Hort.
David Nicolson.
Flying Officer Arthur Harold Charles Adams Rawson.
Charles Sutro.

Committee Reports.—The reports of the House and Finance Committee were received and adopted.

Joint Standing Committee (Royal Aero Club and Society of British Aircraft Constructors).—The report of the Joint Standing Committee held on November 4, 1925, was received and adopted.

The report dealt with the following matters:—
King's Cup Race, 1926.
Handicapping.
Racing Programme, 1926.
Two-Seater Light Aeroplane Competition, 1926.

Joint Committee (Air Ministry, Society of British Aircraft Constructors and Royal Aero Club).—The report of the meeting held on November 11, 1925, was received and adopted.

The report dealt with the following matters:—
Two-Seater Light Aeroplane Competition, 1926.
Certificates of Airworthiness for racing machines.

F.A.I. Conference, Prague.—Lieut.-Col. M. O'Gorman, C.B., submitted his report on the F.A.I. Conference held at Prague, at which he represented the Club.

The following items were included in the report:—
Tests for Watches used in timing records and races.
Limit of landing speed in High-Speed Races.
Fixing price of Aeroplanes for Custom purposes.
Method of measuring Height Records.
Height at which Seaplane Speed Records must be taken.
Freedom of passage when flying over foreign countries.

A unanimous vote of thanks was passed to Lieut.-Col. M. O'Gorman for attending the Conference.

Aviators' Certificates.—It was decided to recommend a modification to the Rule calling for a flight of one hour at 6,000 ft. The Committee were of opinion that the flight of one hour was unnecessary, provided the height of 6,000 ft. was attained. The question would be raised by the Royal Aero Club at the F.A.I. Conference in Paris in January next.

Competition Rules.—The Committee considered the Competition Rules which barred officials of Race Meetings and Competitions from taking part as competitors. It was decided not to make any alterations at present.

Aviator's Certificate.—The following Aviator's Certificate was granted:—

7975 Mrs. S. C. Ehott-Lynn, 4th November, 1925.

Joint Committee

A MEETING of the Joint Committee of the Air Ministry, Society of British Aircraft Constructors and Royal Aero Club was held at the Royal Aero Club, on Wednesday, 11th November, 1925, when there were present:—

Royal Aero Club.—Air Vice-Marshal Sir W. S. Brancker, K.C.B., in the chair, Lieut.-Col. W. A. Bristow, Lieut.-Col. M. O. Darby.

Society of British Aircraft Constructors.—T. O. M. Sopwith, C.B.E., Capt. H. E. P. D. Acland, Commander James Bird.

Air Ministry.—Major J. S. Buchanan, O.B.E.

In attendance:—C. V. Allen, Secretary, S.B.A.C.; H. E. Perrin, Secretary R.Ae.C.

Two-Seater Light Aeroplane Competition, 1926.—The following decisions were unanimously agreed:—

Fuel.—The ingredients of the fuels must be commercially obtainable in bulk.

The fuel used by all engines in the competition shall be substantially the same as that used in the respective type tests for Certificates of Airworthiness and shall be within 5 per cent. of the specific gravity of such fuel.

The unit of fuel is a unit of weight.

Cockpit Width.—A cockpit width of not less than 24 in. to be measured at the seat level must be provided for both pilot and passenger.

In the case of a side-by-side machine, the cockpit width must not be less than 44 in. to be measured at the seat level.

In the case of a machine with staggered seats, a width of not less than 24 in. must be provided for both pilot and passenger to be measured at the seat level.

Certificates of Airworthiness.—A Certificate of Airworthiness for the Aeroplane must be obtained and produced to the Royal Aero Club one week before the opening date of the Competition.

Repairs.—The same Aeroplane and Engine must be used throughout the Competition, but repairs and certain replacements as scheduled will be allowed.

Schedule of Replacements permitted:—

Engine Parts.—Petrol and oil filters, propellers of the same design, construction and dimensions, plugs, valves and springs, magnetos.

Aeroplane Parts.—Wheels, tyres, tail skids, wing-tip skids.

Repairs and replacements of a minor nature.

Any competitor discarding part of or otherwise altering the aeroplane during the Competition, so that it differs in any way from that which was presented to the Officials in the first place, will be disqualified.

Certificates of Airworthiness.—The following representatives of the Air Ministry attended the Committee Meeting:—F. G. L. Bertram, C.B.E.; Capt. W. Dancy; L. T. G. Mansell; Lieut.-Col. H. W. S. Outram, C.B.E.; Lieut.-Col. F. C. Shelmerdine, O.B.E.

Air Vice-Marshal Sir Sefton Brancker reported that in future the Air Ministry proposed to issue Special Category Certificates for Racing Machines and that it would be necessary for all machines to hold a Certificate before taking part in Races in Great Britain. It was decided that the Royal Aero Club should incorporate a rule in all Competitions requiring competitors to produce to the Club by a specific date, Certificates of Airworthiness of machines entered, such date to be not less than one week before the opening date of the Competition.

Offices: THE ROYAL AERO CLUB,
3, CLIFFORD STREET, LONDON, W. 1.

H. E. PERRIN, Secretary

"BRISTOLS" ON THE CONTINENT

"Jupiter" the Standard Engine in 13 Countries

PERHAPS one of the most remarkable phases of recent aviation history has been the rapid development of the radial air-cooled aero engine. From being looked upon with disfavour, the type has come to be regarded as having passed all its "teething troubles" and to rank among the best engines of modern times. To this country it is particularly gratifying to find that in the matter of radial aero engines Great Britain leads the world, and that British aero engines of this type are gradually being adopted by quite a large number of European countries, not to mention the increase in their use at home, for commercial no less than for service purposes. It is now several years ago that France decided to acquire the rights for building the Bristol "Jupiter" aero engine, and since that time a large number has been constructed under licence in France by the Gnome-Rhone Company. Italy also has recognised the merits of the Bristol "Jupiter" and is building them under licence, as is also Czecho-Slovakia. In addition, a number of other countries are adopting this engine, and we are informed that the "Jupiter" now forms part of the standard equipment of no less than 13 European nations.

The Bleriot-Spad 56, with Bristol "Jupiter" engine, which flew from Paris to Teheran in 34 flying hours.

Up till now by far the greatest number of "Jupiter" engines have been ordered by the French Government, who has bought from the French licensees, the Gnome-Rhone Co., no less than 540 "Jupiter" engines. It may be taken for granted that the French authorities have not ordered an engine of foreign design without very strong reasons, and that competition has been extraordinarily keen. It is therefore of interest to note that the French Minister of War has recently apportioned orders for aero engines, and that the numbers ordered are as follows: "Jupiters," 220; Hispanos, 220; Renaults, 180; and Lorraine-Dietrichs, 180. The French Navy has ordered another 150 "Jupiters," bringing the total ordered this year up to 370 engines. Doubtless the excellent work done in Morocco recently, where Farman "Goliaths" and other types fitted with the "Jupiter have proved of inestimable value. Reference was made in FLIGHT some weeks ago to the splendid flight of three squadrons of Goliaths with two "Jupiters" per machine from Cuers-Pierrefeu to Casablanca, and in actual service in Morocco these machines have shown an improvement on those fitted with water-cooled engines, both in the load carried and in the immunity from such troubles as may beset water-cooled engines in very hot climates. It is reported that Marshal Petain has written to the French Ministers of War and Marine to inform them that this material has proved itself superior to all others, and that it has accomplished daily bombing raids remarkable for their effect and long distance.

In the competition for single-seater fighters now in progress in France, the "Jupiter" is extensively used, and among the machines at the head of this competition, mention may be made of the "Jupiter"-engined Gourdou-Lesseurre, which has a ceiling of 9,750 metres (32,000 ft.) and climbs to 8,000 metres (26,300 ft.) in 31 minutes. This machine has hitherto proved the fastest in the competition at heights above 6,000 ft. Another machine doing well in the competition is the Dewoitine "Jupiter," not to mention the Bleriot and Wibault machines, fitted with the same engine. Finally, the Adolphe Bernard Company, the builders of the famous "Ferbois" monoplane, which holds the world's speed record, is finishing a "Jupiter"-engined machine from which great things are expected.

Quite recently the "Jupiter" has added to its laurels by flying from Paris to Teheran in 34 flying hours. The machine in which this engine was fitted was a Spad 56, and is shown in the accompanying photograph, which a friend has sent us from Baghdad. This flight is being undertaken by several types of French machines, fitted with different makes of engine, and it is of interest to note that the times taken over the various stages by the Bleriot-Spad-"Jupiter" commercial aeroplane were as follows:—

Stage.	Distance.	Time.		Average speed.
	Miles.	h.	m.	m.p.h.
Paris-Zürich	348	3	30	99·0
Zürich-Vienna	452	4	0	112·8
Vienna-Sofia	550	5	45	95·6
Sofia-Constantinople ..	308	3	10	97·3
Constantinople-Aleppo ..	683	7	20	93·2
Aleppo-Baghdad ..	528	5	0	105·5
Baghdad-Teheran ..	559	5	15	106·5
Total	3,428	34	0	101·5

Considering that the Spad is a commercial machine, an average speed, over such a distance, of 101½ m.p.h. is distinctly good, the more so as the machine was standard in every way except for the fitting, at Constantinople, of a larger petrol tank to enable the machine to make the flight from there to Aleppo (683 miles) non-stop. Our correspondent at Baghdad states that the pilot of this machine told him that the only replacement was a plug. (Incidentally, it is of interest to record the fact that K.L.G. plugs and Wakefield Castrol were used on the flight.)

"Jupiters" in Poland.

Doubtless to a large extent as a result of the French successes with the "Jupiter," Poland has recently ordered no less than 32 twin-engined Farman "Goliaths" with "Jupiter" engines, in addition to which, 50 "Jupiters," which are destined to equip the first 50 Bleriot-Spad single-seater fighters purchased by the Polish Government, have just been delivered.

FLIGHT
AIRCRAFT ENGINEER

Bristols in Holland : A Fokker C.V.d. with "Jupiter" engine.

Furthermore, deliveries are being continued of "Jupiter" engines to equip two-seater reconnaissance and bombing machines.

"Jupiters" in Holland.

In Holland the Fokker firm have fitted "Jupiters" in several types of military machines, one of which, the C.V.d., is shown in the accompanying photograph, and excellent performance is reported. Koolhoven's famous two-seater reconnaissance monoplane is another Dutch type using the "Jupiter," the machine, as is well known, also being manufactured in France under licence by the de Monge firm. That the "Jupiters" are equally successful in commercial aeroplanes is shown by the fact that the K.L.M. Dutch air line has decided to put into service a number of Fokker commercial machines, equipped with this engine, so that taking it all round, the Bristol firm can be congratulated upon the excellent progress made by their product abroad no less than at home.

ROYAL AERONAUTICAL SOCIETY

(Official Notices)

Lecture.—The next Lecture of the Sixty-First Session of the Royal Aeronautical Society will be held in the Library at 7, Albemarle Street, W.1, on Thursday, November 26, at 5.30 p.m., when a paper on "Installation Problems in Air-Cooled Engines" will be read by Mr. A. H. R. Fedden, Fellow.

Journal.—The November issue of the *Journal of the Royal Aeronautical Society* contains a paper on "The Lessons of Six Years' Experience in Air Transport," by Major-General Sir Sefton Brancker, a "Note on the Longitudinal Stability of Aeroplanes with Special Reference to Tail Plane Design," by Mr. W. L. Le Page, and correspondence on "The Flapping Flight of Birds," by Professor Sir Gilbert Walker, Colonel J. D. Fullerton, and Major O. T. Gnosspelius. The *Journal* can be obtained from the Society's offices, price 2*s.* 9*d.* post free.

R.38 Memorial Prize Regulations.—From the income of the R.38 Memorial Fund a sum of 25 guineas will be offered as a prize for the best paper received by the Royal Aeronautical Society on some subject of a technical nature in the science of aeronautics. Other things being equal, preference will be given to papers which relate to airships.

The prize is open to international competition. The Royal Aeronautical Society retains the right to withhold the prize in any year if it is considered that no paper is of sufficient merit to justify an award.

Intending competitors should send their names to the Secretary of the Royal Aeronautical Society, 7, Albemarle Street, London, W.1, on or before December 31, 1925, with such information in regard to the projected scope of their papers as will enable arrangements to be made for their examination. The closing date for the receipt of papers will be March 31, 1926.

Papers, which must be submitted in either French or English, should in all cases be typed, and a copy should be retained by the author as the Society can take no responsibility for the loss of copies submitted to it.

Successful papers will become the absolute property of the Society and in most instances be published in the *Journal of the Royal Aeronautical Society*. A signed undertaking must accompany each paper to the effect that publication has not already taken place and that the author will not communicate it elsewhere until the Society's award is published.

The Society attaches special importance to papers showing original work, and due acknowledgment must be made by the author of the source of any special information.

Air Survey (Ordnance) Experiment

THE Aircraft Operating Co. have just completed an experimental aerial survey for the Ordnance Survey Department, the object of which was to test the effectiveness of aerial photography for official map revision purposes. For the experiment the Eastbourne district was chosen.

Oxford v. R.A.F. and Roehampton v. R.A.F.

THE R.A.F. was unfortunate in the world of sport on Saturday. In their match at Oxford they were defeated by the University by three goals to two, while in an eight-a-side match at Roehampton (Golf) the club defeated a R.A.F team by 7½ points to 4½.

The Italian Transatlantic Flight

AFTER having experienced several delays owing to bad weather, Commandante Casagrande, the Italian pilot who, with four others, is attempting a flight across the Atlantic to Buenos Aires in a Savoia S55 twin-float mono-seaplane, resumed his journey from Gibraltar on November 19 at 11.22 a.m., and reached Casablanca (N.W. Africa) at 2.40 p.m.

Change of Address

WE would again remind our readers that the Palmer Tyre, Ltd., are no longer at 119-123, Shaftesbury Avenue, London, but that since April last their head offices have been transferred to 100-106, Cannon Street, London, E.C. 4.

THE HOLT "AUTOCHUTE"

AN interesting demonstration of the Holt "Autochute" was given at Stag Lane aerodrome on November 18—the first to be given in public. The Holt "Autochute," we need hardly remind our readers, is a life-saving parachute for airmen, and is not by any means a new invention (as past issues of FLIGHT will testify), for Col. Holt, its designer, constructed the first model as long ago as 1918. The model demonstrated on November 18 was, of course, a modern version of this device.

It may be of interest to note that the American parachute with which the Air Ministry is equipping the R.A.F., although of recent design, suggests to all intents and purposes identity to the early type Holt "Autochute." In fact, Col. Holt claims that this American parachute embodies not only the fundamental principles of the "Autochute," but also several features which Col. Holt abandoned as unsatisfactory.

The Holt "Autochute": A demonstration of the life-saving parachute invented by Col. Holt, who is seen on the extreme right, was given at Stag Lane Aerodrome on November 18. Our picture shows Capt. Spencer, who made the drop, adjusting the harness, and, on the left, descending from the D.H.9, which had carried him up to about 1,000 ft.

Before referring to the demonstration at Stag Lane, it would, perhaps, not be out of place if we gave a brief description of the Holt "Autochute." The "Autochute" belongs to what is known as the "free" parachute system, that is, the pilot or passenger jumps from the machine with the parachute, which is released when clear of the machine.

In the "Autochute" the main parachute is carried in a container attached to the body of the airman. Attached to the main parachute is a smaller, or "pilot" parachute, and when the airman jumps from the machine the "pilot" is released from the pack, either positively by the airman himself or automatically. The "pilot" parachute then pulls the main parachute out of the pack, and the descent is made with the main parachute. In some models of the "Autochute," a third parachute is introduced between the "pilot" and the main. This is called the shock parachute, and its object is to reduce the velocity of fall and consequently the shock and the strain on the main parachute when the latter opens. It must be remembered that in the free parachute system, the important thing is not the time taken before the main parachute opens, *but the distance fallen in that time*. A free parachute that takes four seconds to open and falls 150 ft. is better *from every point of view* than one that opens after three seconds and falls 200 ft. in that time.

Several models of the "Autochute" are made, according to requirements, that demonstrated last week being one in which the pack is worn so as to form a seat—or cushion—for the airman when he sits down, thus relieving him of the weight of the parachute and also avoiding any alteration being made to the fuselage of the machine. The harness is made in one complete piece of tubular webbing, and the leg loops are formed by loops of the life-line itself and take the shock of opening, so that there is practically no strain on the harness itself.

The "pilot" parachute opening mechanism is globular in form, so that there are no points or hooks to catch in the aeroplane and the parachute lines. It weighs only 4½ ozs., and there are no joints or rivets to get rusted and jammed. The umbrella-frame mechanism for opening the pilot parachute was tried by Col. Holt some years ago, but was abandoned.

The main parachute is fitted with silk tubes, into which the rigging lines are inserted before folding the parachute. This avoids any possibility of the lines getting entangled, as they do not leave their tubes until after the pilot parachute has withdrawn the main parachute from its case. A "jelly-bag" device is fitted inside the parachute to hold the mouth open and a frangible diaphragm covers the mouth of the vent hole in the crown to obviate suction. It should be noted that the main parachute is held firmly in the pack, and does not leave it until actually pulled out by the shock parachute.

As regards the release mechanism, this works through a hand release in parallel with a long static lanyard attached to the aeroplane, so that if the airman loses his head and fails to pull the hand release, the pilot parachute will still be released automatically by the long lanyard. Except in the

case of experienced parachutists, the use of both static and hand lanyards is recommended. Where the employment of a number of static lanyards is not practicable—as in an air liner—the Holt delay mechanism is fitted, which the passenger sets in operation before he jumps, and which is so timed to release the pilot parachute when clear of the machine.

At last week's demonstration, at Stag Lane, Capt. H. Spencer—who has made some hundred parachute descents—ascended, with a Holt "Autochute" *in situ*, in a D.H.9 piloted by Capt. Broad. At an altitude of about 1,000 ft. he jumped—head first—from the machine. After falling a short distance the small pilot parachute was seen to open, following which the somewhat larger shock parachute made its appearance, at the same time checking Capt. Spencer's fall. Almost immediately the main 17 ft. parachute was withdrawn from the pack and Capt. Spencer continued the rest of his "fall" with a steady descent by its aid. All these operations took place smoothly and quickly, before Capt. Spencer had dropped many feet. In short, the demonstration was satisfactory in every way.

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LIGHT 'PLANE CLUB DOINGS

London Aeroplane Club

FLYING during the week has been very restricted on account of fog and wind, and on only two days was it possible to give instruction.

Solo flying was carried out by Mrs. Eliott-Lynn, G. H. Craig, H. P. Lucas, G. N. Warwick, Squadron-Leader M. Wright.

The following members had flying instruction: H. F. Wight, Mrs. Atkey, W. E. P. Johnson, N. Jones, E. L. Brough, C. E. Murrell, G. W. Quirk, Major Beaumont, A. R. Ogston, L. J. C. Mitchell, R. P. Cooper, W. Hay, J. J. Tapper, F. Clarkson, J. H. H. Laxton, H. R. Thomas, D. Kittell.

The total flying for the week up to Sunday, November 22, 1925, was 12 hours.

Mrs. Eliott-Lynn has been granted her aviator's certificate by the Royal Aero Club. This is the second aviator's certificate issued to members who have received their flying instruction at the London Aeroplane Club.

The Lancashire Aero Club

BAD fog has seriously interfered with flying throughout the week, and only on Wednesday and Sunday was it possible to attempt instruction. Total flying time for week ending November 23, four hours.

The following have had "dual" on L-R with Mr. Scholes: S. Crabtree, 30 minutes; H. Macnair, 15 minutes; H. S. Stern, 30 minutes. Mr. Cantrill gave "dual" on L-R to A. Goodyear, 30 minutes. Solo flights on L-V by Mr. Lacayo, 1 hour 25 minutes; J. Leeming, 20 minutes. Test flights by the instructors occupied 30 minutes.

On Wednesday, November 18, Mr. Lacayo was busy making the required test flights for his certificate, and during his height test attained over 9,000 ft. One member notorious for his invisible "stalled turns" is believed to have attempted a new form of "stunt." Upside down flying has often been heard of, but up to now no one seems to have attempted landing in that position. Mr. Leeming was quite unhurt, and the machine will be flying again in a few days.

An example of generous assistance to the Light Aeroplane Clubs is shown by Mr. George Parnall's treatment of the Lancashire Club. Some months ago the club purchased an old Douglas Aero engine, to use in its L.P.W. monoplane. Not knowing where to obtain a suitable propeller, some of the committee remembered the Parnall monoplane had been fitted with a similar engine, and a letter was written asking Messrs. Parnall & Co. if they had a propeller for sale. By return came a letter from Mr. Parnall himself saying not only had he that day despatched a new propeller carriage paid but had also sent a complete Douglas engine with propeller boss, countershaft, etc.

When the club recently gave a luncheon in Manchester to Sir Samuel Hoare, Mr. Parnall came from Bristol to be present, and made his offer of £100 to the club funds before the luncheon and before any of the other gifts had been made. The club received his cheque on the following day.

The Newcastle-upon-Tyne Aero Club

LAST Saturday, November 21, the Club's aerodrome at Cramlington—some nine miles from Newcastle—was officially opened by the Lord Mayor, Councillor A. Oates, and the two D.H. "Moths" were christened "Bernicia" and "Novocastria," respectively, by the Lord Mayor's daughter, Mrs. McEwan. A large number of guests and members were present, including the Director of Civil Aviation, Sir Sefton Brancker, Sir Arthur M. Sutherland (who presided in the absence of the Duke of Northumberland), Councillor R. J. Thompson (Sheriff of Newcastle), Sir Archibald Ross, etc.

After the Lord Mayor had declared the aerodrome open, the flag was run up the mast and then lowered to half-mast. Demonstration and passenger flights were then made, flying continuing until dusk. Among those going up with the two pilots, Mr. W. Baxter Ellis and Maj. Packman, were the Lord Mayor, the Sheriff, Lady Ross and Miss Ross. Sir Arthur Sutherland entertained the large company to tea in the club house, where several speeches were made.

Sir Sefton Brancker urged the need of the Club to become self-supporting, and asked the members to make their plans and draw up their budget on the supposition that the subsidy would very likely come to an end in the near future. Subsidies were like a boomerang, apt to come back and hit one in a tender spot. They were unnatural and wrong. Their motto should be "Self-Help."

He assured them, however, that the Air Ministry treated the clubs very seriously, and stood ready to help clubs that helped themselves. They could always count on his attention.

Sir Archibald Ross mentioned that he had recently been invited to become a vice-president, but had not previously decided. After seeing what he had seen that day, he said he was anxious to accept the invitation, if it was still open.

Flying report for week ending November 22, 1925:—

The total times for the week: LX, 16·09; LY, 3·29 = 19·38.

The following pupils flew under instruction with Major S. A. Packman: Messrs. W. H. Leete (15 min.), A. D. Bruce (30 min.), J. D. Irving (3 hr. 19 min.), W. M. MacKay (68 min.), C. Thompson (35 min.), R. N. Thompson (1 hr. 33 min.), W. Todd (30 min.), R. M. Stobie (1 hr.), E. C. Kennedy (30 min.), A. E. George (1 hr.), J. Wingate (30 min.), J. H. Smith (1 hr. 15 min.), F. H. Phillips (32 min.), J. C. Lawrence (45 min.), G. H. Waugh (1 hr.), D. H. Sandilands (30 min.), Miss F. J. Ellis (37 min.).

The following flew solo during the week: Mr. P. Forsyth Heppell (1 hour), Mr. R. M. Stobie (30 min.), Mr. N. S. Todd (30 min.).

Major Packman carried the following as passengers: Mrs. Lawrence, Mrs. Kirkhouse, Miss Sutherland, Miss B. Elcoa, Miss Langdale, Mr. Barton Wright, Mr. B. Nicholson, Mr. H. Ellis.

On Saturday, after the opening of the aerodrome and naming of machines, Mr. Baxter Ellis took up as passengers the Lord Mayor of Newcastle, Lady Ross and Miss Ross.

Major Packman flew with the Sheriff, Councillor R. J. Thompson, Councillor J. Clydesdale, who is almost totally blind, also a press representative and cinema (Pathé) operator.

Mr. Stobie will fly his tests for licence on Monday.

The weather has again been very dull, with fog, throughout the week, but flying has taken place every day, though, owing to preparations for the opening ceremony (reported separately), very little flying was possible on Saturday.

The telephone is now installed in both the club house and instructor's office. Number—Cramlington 9

The second annual club dance was held in the Grand Assembly Rooms, Barras Bridge, on November 19, and was completely successful and thoroughly enjoyed by 220 dancers.

Three pilots and pupils and another took part in a debate, early in the morning of Friday, the 20th inst. The subject, it is stated, was "Navigation Lights and Signals," but the result is not very clear.

Small but apparently heavy and valuable machine parts are being secretly conveyed to the aerodrome, wrapped in brown paper, etc. A small body of members and the instructor and engineer are, on every possible occasion, and out of hearing, engaged in earnest conversation, in undertone, of course, and the subject appears to be so serious and confidential that no other members dare to inquire the nature of the conspiracy. The copy of rules relating to the 1926 Two-Seater Light Aeroplane Competition was recently borrowed from the secretary and returned, in a rather worn condition, without remark, also inquiries have been made for certain formulæ, one being that relating to calculations with regard to stagger in monoplanes. Developments are eagerly awaited, probably on the eve of the competition. In the meantime, the approved "hush" policy is being followed.

THE WAZIRISTAN CAMPAIGN

IN the Supplement to the *London Gazette* for November 20 a dispatch is published from Air Vice-Marshal Sir E. Ellington to General Sir Claud Jacob, Commander-in-Chief in India, reporting on the R.A.F. operations against certain sections of the Mahsuds in Waziristan during the period March 9 to May 1, 1925. We give below extracts from this dispatch :—

The operations were carried out by 26 machines, with a total force of 47 officers and 214 airmen, and took place in South-East Waziristan. The area covered by them was some 50-60 square miles in extent, including about 40 targets, varying in height from 3,000 ft. to 6,000 ft. above sea level, the tops of the hills rising to 7,000 ft. These targets varied from the good-sized villages, vulnerable to bomb attacks, of the Faridai and Maresai, to the purely cave dwellings of the Abdur Rahman Khel and the scattered huts and enclosures of the Guri Khel. Practically all the villages, however, possessed a protective cave system. All the tribes possessed some cattle ; these were mostly driven into the caves during the day and watered and fed at night. Except in the early morning and evening, the air was very bumpy, making accurate bombing difficult.

The tactical unit employed was a flight of three machines, bombing normally at a height of 3,000 ft. over the target. The tactics employed may be described as follows : (1) Intensive air attack ; (2) air blockade ; (3) night bombing. Every effort was made to avoid routine in order to keep the tribes on the *qui vive* and in constant state of uncertainty as to when and how they were going to be attacked. Intensive air attack was carried out by a series of flight raids, the hours of daylight being divided into periods and the periods being allotted to squadrons in rotation. This form of attack was varied by concentrating more than one squadron on a selected target during a short period, and thus increasing the intensity of the attack. By varying the times and order of attack on targets, attempts were made to effect a surprise.

Air blockade consisted in sending machines over the area at irregular intervals during the day to attack certain definite targets, etc. The object of this method was to harass the tribes continuously, to give them a general feeling of insecurity, uncertainty and discomfort, and to prevent the pursuit of their normal activities. Continuous air patrols were also employed with the same object. Night bombing was carried out by individual machines by moonlight, either against definite targets which were seen, or on localities where it was desirable to maintain the blockade. Reconnaissance flares were used to assist the pilots in such work. No great material damage can be expected from this night bombing, but it prolongs the blockade into the night, and thus further disorganises the normal life of the tribesmen.

Flying Officers N. C. Hayter-Hames and E. J. Dashwood, while carrying out a bomb raid on March 21, were forced to come down in hostile territory, their machine being completely wrecked. Flying Officer Hayter-Hames was instantly killed, and Flying Officer Dashwood fell into the hands of Guri Khel friendlies and died shortly afterwards.

The report states that it is difficult to obtain information as to the actual number of casualties inflicted on the enemy. It is not likely, however, that there were many, nor is it desirable that they should be so long as the enemy can be brought to terms without.

The operations themselves lasted for 54 days, and on 42 of the first 45 days bombing was carried out on some part of the area proclaimed. This is believed to have been the longest continuous operations carried out by aircraft since the end of the Great War. Some 2,070 hours of war flying was done, and, in addition, some 650 hours flying was carried out by the squadrons in connection with the operations, a total of over 2,700 hours. There was only one fatal accident, which was probably due to the machine being shot down. This was the only occasion where a machine or a man fell into the hands of the enemy with, it is regretted, the loss of the lives of two valuable pilots.

This is the first occasion in India that the R.A.F. has been used independently of the Army for dealing with a situation which has got beyond the resources of the political officers. It is at present too early to judge how lasting will be the effect or how permanent will be the impression of this display of air power on the stubborn tribesmen of the North-West Frontier, but it is claimed that the operations prove that in the R.A.F. the Government of India have a weapon which is more economical in men and money and more merciful in its action than other forms of armed force for dealing with the majority of problems which arise beyond the administrative frontier. That they have not been without effect on sections of the Mahsuds who were not included in the area of operations is shown by a number of settlements which have been effected during the progress of the operations.

In the covering despatch by Sir Claud Jacob notice is drawn to the excellent work performed by all ranks engaged in the operations, the results of which are regarded as most satisfactory. Sir Claud is of the opinion, however, that a combination of land and air action would have brought about the desired result in a shorter space of time, and he expressed the hope that next time action had to be taken it would be possible to employ the two forces in combination.

The following awards have been made for gallant and distinguished service :—

Distinguished Service Order.—Squadron Leader Arthur John Capel, D.F.C.

Distinguished Flying Cross.—Flight-Lieut. John Wakeling Baker, M.C., Flight-Lieut. William Neville Cumming, and Flying Officer Reginald Pyne.

Distinguished Flying Medal.—90741 Sergeant (Pilot) George Edwin Campbell, 84631 Sergeant (Pilot) Ralph England Hawkins, 7392 Sergeant Arthur Dixon Rutherford, 86779 Corporal Reginald William Richard Robins, and 327082 Leading Aircraftman Alfred William Walmsley.

The following have been brought to notice by General Sir Claud Jacob for distinguished service :—

Royal Air Force.—Flying Officer Wilfred Arthur Chase, Flying Officer Edward John Dashwood (killed), Flying Officer Charles Dollery, Flying Officer Frederick Frank Garraway, Flight-Lieut. James Alexander Gordon Haslam, M.C., D.F.C., Flying Officer Noel Cecil Hayter-Hames (killed), Wing-Commander Richard Charles Montagu Pink, C.B.E., Flight-Lieut. Robert Churton Savery, D.F.C., Flight-Lieut. Cecil Alfred Stevens, M.C., No. 159387 Cpl. William Joshua Leslie Brown, No. 314957 F./Sgt. William George Henry Butcher, No. 345362 L.A.C. Albert John Jones, No. 337185 Cpl. Sidney Lancelot Reeve, and No. 334124 Cpl. (A./Sgt.) George Robert Small, M.M.

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The London-Cape Town Survey Flight

SINCE his departure from London on November 16, Mr. Alan Cobham, who is flying to Cape Town on a D.H. 50J (Siddeley "Jaguar"), has experienced very bad weather conditions, which have somewhat delayed his progress. He left the Marignane Aerodrome (near Marseilles) on November 18 and flew to Pisa. The next morning he continued his journey to Taranto. On November 20 he got as far as Athens, where, up to the time of writing, he is halting to effect certain adjustments to the engine, etc.

Air post collectors and others will be interested to learn that Mr. Alan Cobham carries with him on his sensational flight from London to the Cape a small mail of official letters containing messages of greeting from certain prominent personages to high officials of the Union of South Africa. With the sanction of H.M. Postmaster-General he is also conveying a few souvenir cards prepared for the occasion by FLIGHT and addressed to some of its correspondents in South Africa. Owing to the short time available and delay in obtaining the necessary authority it was found impossible to place these cards on sale to the public, as was at first intended, and since the mail was a special, and not an "open" one, no other correspondence could be included. We feel sure, however, that those who receive these tastefully designed cards with the artistic vignette affixed will treasure them as pleasing philatelic mementoes of an epoch-making event in the history of aviation.

Cairo-Kano-Cairo Flight Concluded

THE return flight from Kano, Nigeria, to Cairo, of the three D.H.9A (400 h.p. "Liberty") biplanes, piloted by Squadron-Leader Arthur Coningham (in command) and Flight-Lieuts. H. W. Baggs and H. V. Rowley, was brought to a successful conclusion on November 19. Thus, since their departure from Cairo on October 27, they covered some 5,600 miles in 23 days. They set out from Khartoum—where we left them last week—on November 18, and flew to Wady Halfa. Continuing next day at 6.45 a.m., they concluded their journey and landed at Helwan (Cairo) at 4.45 p.m. There was a large gathering present to welcome them back, but, unfortunately, Lord Lloyd (British High Commissioner) was unable to attend, as he had previously intended.

FLIGHT

AIR MINISTRY NOTICES

Forced Landings of Aircraft not Equipped with W/T Apparatus on Cross-Channel Flights

1. CASES have recently occurred in which pilots of aircraft not equipped with W/T apparatus engaged on cross-Channel flights, who have not availed themselves of the arrangements for reporting their passage across the Channel detailed in the Air Pilot Monthly Supplement No. 11 (and in Notices to Airmen, Nos. 40 and 46 of 1925), have had forced landings or have proceeded to destinations other than those originally intended and have failed to notify the aerodrome of departure or of original intended destination of their whereabouts for some considerable time afterwards.

2. Such failures cause great inconvenience, unnecessary use of W/T in making inquiries, and necessitate stations working beyond normal hours in their efforts to ascertain the whereabouts of the missing aircraft before closing down. On certain occasions wireless broadcasting has even been resorted to, which is most undesirable except in urgent cases.

3. It is therefore incumbent on all pilots in such circumstances promptly to notify their whereabouts after a forced landing, or a landing at a place other than originally intended, to the aerodrome of departure or original intended destination.

No. 52 of 1925.

Littlestone Landing Ground: Automatic Wind Indicator

IT is notified :—

1. An automatic wind indicator, as described below, has now been installed in the N.E. corner of the Littlestone landing ground.

Name and Position.—Littlestone.—On Littlestone landing ground, in N.E. corner. Lat. 51° 01′ N., Long. °59′ E.

Nature and Character of Lights.—(*a*) 1 white occulting, 1 sec. (C 1 w 27). (*b*) Automatic wind T.

Visibility in clear weather (*miles*).—(*a*) 4 (approx.). (*b*) 1 (approx.).

English Candle Power.—(*a*) 27,000.

Description of Structure.—T-shaped structure, pivoted to swing into wind.

Description of Lights.—(*a*) Situated approx. 27 ft. (8 m.) above sea level; over-all height above ground, 17 ft.

Between sunset and sunrise the illuminated wind indicator exhibits, up to a range of about 4 miles, an occulting light with a period of 1 second (characteristic: *Flash* ½ second; eclipse ½ second), and is also visible as a distinct "T" within a radius of about 1 mile.

2. AIR PILOT.—An amendment to the Air Pilot will be notified in due course.

(No. 55 of 1925.)

Holland: Flushing Meteorological Ground Signals.

IT is notified :—

1. The meteorological ground signals at Vlissingen (Flushing) will, until further notice, be displayed for :—

Schiphol	..	At 0845 and 0945 hours.
Rotterdam	..	At 1045 and 1145 hours.
Ostend	..	At 1119, 1219, 1319, 1419, and 1519 hours.

Note.—The times given above are G.M.T. Add twenty minutes to convert them into A.T. (Amsterdam Time).

2. *Information affected.*—The Air Pilot Appendix, page 43, paragraph 73, is affected. Notice to Airmen No. 38 of 1925 is cancelled.

No. 57 of 1925.

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Accountant Officers in Royal Air Force

THE Air Ministry announces that the following candidates for permanent commissions in the Accountant Branch of the Royal Air Force have been declared successful as a result of a competition held by the Civil Service Commissioners, subject in certain cases to further medical examination: Stone, D. C., London; Dook, C. L., Frodingham, Lincs; Withers, H. R., London; Fairs, A. E., Swansea; Cave, J. P., London; Sender, D., London; Stephenson, J. A., Worcester; Derry, A. L., Wellington, Salop; Jackman, K. A., Southampton; Quilliam, W. F., Manchester; Lambie, J., Aylesbury; Crowther, H., Bacup; Hannam, H. L., Rotherham. It is anticipated that a small number of additional appointments to commissions may be made during 1926 on the results of this competition.

Route Meteor Reports: Service on Sundays Discontinued.

IT is notified :—

During the winter the service of route meteor reports from the Air Ministry, Cologne, Paris (Le Bourget) and Brussels will be discontinued on Sundays, except when required for the purpose of special flights and provided that at least 48 hours' notice is given beforehand to the Director of Civil Aviation (Room 30), Gwydyr House, Whitehall, S.W. 1.

Note.—Route meteor reports for Holland are not normally issued on Sundays.

AIR PILOT APPENDIX.—Paras. 67-69 (pages 37-39) of the Air Pilot Appendix are affected.

(No. 61 of 1925.)

Italy: Landing Signals

IT has been arranged that the fixed T markings displayed at Italian aerodromes and landing grounds shall be reversed in direction so as to conform with standard practice in other countries, *i.e.*, the direction of landing will be *up* the T. The alteration has already been effected at the majority of air stations.

Notice to Airmen No. 62 of 1924, para. 5 (*d*) (ii), is accordingly amended as follows :—

4th line :—*Delete* "short arm" *and substitute* "situation."

7th line :—*Delete* "Machines . . . land *down* the T." *and substitute* "Landings should be effected *up* the T."

18th and 19th lines :—*Delete* "*down*," "hilt" and "point" *and substitute respectively* "*up*," "point" and "hilt."

[No. 63 of 1925.]

NOTICE TO GROUND ENGINEERS

Inspection of Instruments (Category "E" Ground Engineers' Licences)

IT is notified :—

1. It is proposed to abolish Category "E" Ground Engineers' Licences (para. 29, Section III, A.N.D.3) as from January 1, 1926.

2. On and after that date the inspection of instruments required by (*c*) of para. 35, Section IV, A.N.D.3, will continue, but may be carried out (for the aircraft instruments) by Ground Engineers licensed in Category "A" and (for instruments connected with the engine or its installation) Category "C."

3. The forms of certificates set out in (*a*), (*b*) and (*c*) of para. 37 of Section IV, A.N.D.3, will be reworded accordingly, so that (*a*) and (*b*) will together include (*c*).

4. As from January 1, 1926, questions on the prescribed aircraft instruments will be added to the syllabus of the examination for Categories "A" and "B," while questions on the prescribed instruments connected with the engine or its installation will similarly be added to the syllabus of the examination for Categories "C" and "D."

5. Ground Engineers possessing current licences in Category "A" and Category "E" or Category "C" and Category "E," will be considered competent to sign the new combined certificates.

6. Holders of current licences in Category "A" or Category "C" only (*i.e.*, not including also Category "E") should apply to the Secretary, Air Ministry (D.D.A.I., I.A. [2]), if they wish their licences to be extended to entitle them to sign the combined certificate.

7. Licences in Category "A" or "C" will not be renewed after January 1, 1926, until the Secretary of State is satisfied that the holder has the required knowledge of instruments.

[*No. 7 of* 1925)

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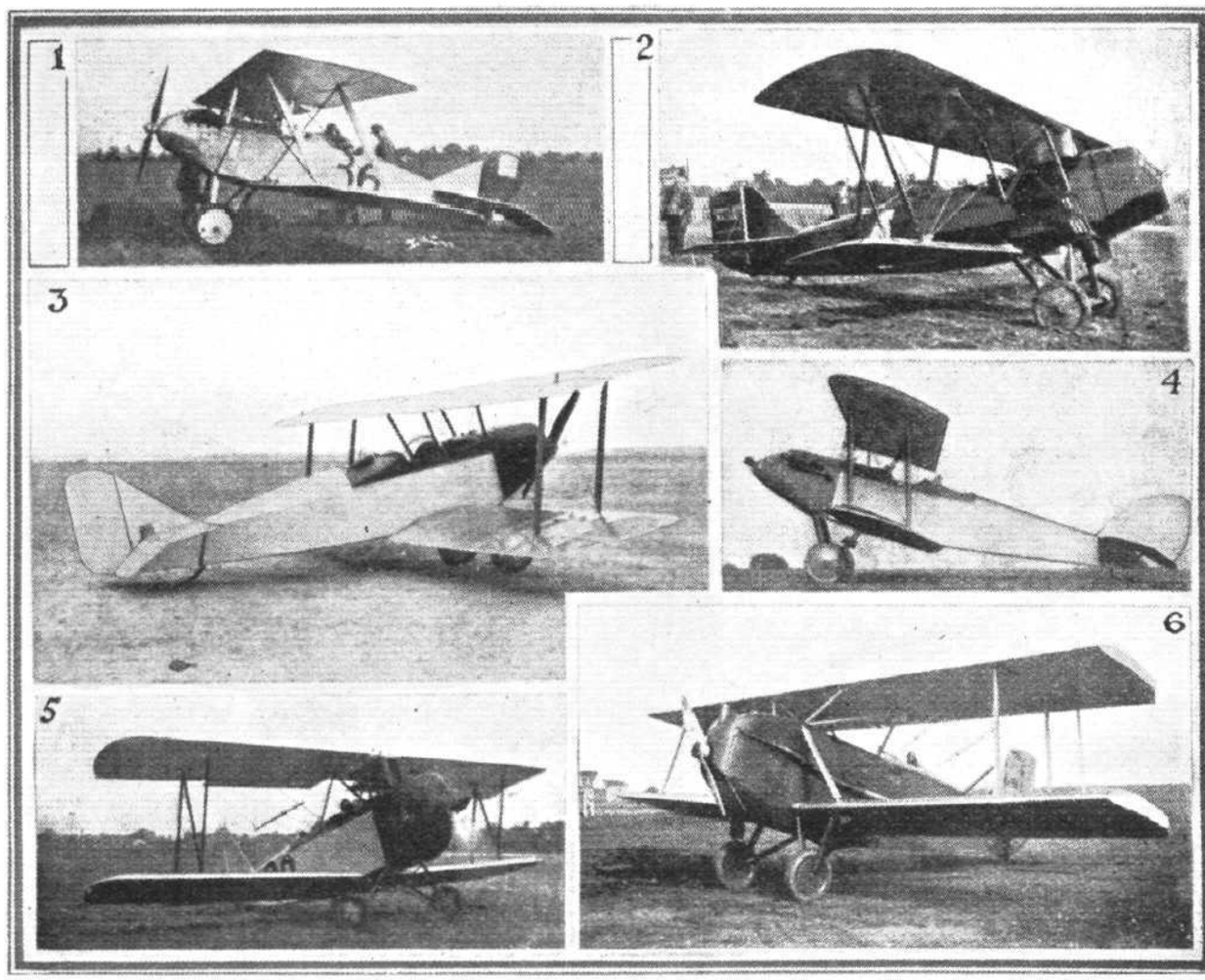
Von Richthofen Buried in Berlin

BARON MANFRED VON RICHTHOFEN, the famous German "Ace," who formed the Richtofen "Circus"—the German fighter squadron which "stirred up the air" to no small extent during the war—and who was shot down in France in April, 1918, was buried with full military honours in Berlin on November 20. The airman's body was brought from Fricourt, in France, where it was buried until just recently, handed over to the German authorities for interment in the Fatherland. Vast crowds attended the funeral, including Marshal von Hindenburg, and among the many wreaths was one from the British and American officers in Berlin. This took the form of an air-screw of dark flowers on a background of white, and bore the inscription: "To Manfred von Richthofen, our opponent, but none the less our comrade."

THE FORD RELIABILITY TOUR

FROM reports received, it would seem that the first annual aerial reliability tour organised by the Society of Automotive Engineers of America for a trophy presented by Mr. Edsel B. Ford, and which took place from September 28 to October 4, was a complete success, and has been the means of demonstrating the high degree of reliability which modern commercial aircraft have attained. Out of the seventeen actual starters (about twenty machines were entered) fifteen successfully completed the 1,900 miles within a reasonable margin of the schedule time.

This first contest was somewhat in the nature of an eliminating trial for the succeeding years' contests, for the trophy was not awarded to any of this year's competitors, but all who succeeded in finishing on schedule were considered



THE FORD RELIABILITY TOUR: Some of the competing machines which took part in the 1,900-mile reliability air-tour in America for the trophy presented by Mr. Edsel B. Ford. (1) The Yackey Sport. (2) The Travel Air. (3) The New Swallow. (4) The Waco. (5) The Mercury Jr. (6) The Curtiss Carrier Pigeon.

" winners " and will have their names engraved on the trophy, which so places them " one up," so to speak, for next year's event, when a plan will be worked out in which different factors will enter into the formula for determining the winner. It may be added that the competitor who gets his name engraved on the cup five times in succession becomes the permanent possessor of the trophy.

For this year's contest the machines taking part—civilian, commercial aeroplanes—had to comply with certain conditions in the way of factors of safety, and had to carry a paying load of 0·5 lbs. per cub. in. of engine displacement. Further, each machine worked to a time schedule based on an average speed of 80 m.p.h. over ten " legs " of the course.

The latter, which, as previously stated, measured 1,900 miles, was divided as follows :—September 28 : 1, Detroit–Fort Wayne ; 2, Fort Wayne–Chicago. September 29 : 3, Chicago–Omaha. September 30 : 4, Omaha–St. Joseph ; 5, St. Joseph-Kansas City. October 1 : 6, Kansas City–St. Louis. October 2 : 7, St. Louis–Indianopolis. October 3 : 8, Indianopolis–Columbus. October 4 : 9, Columbus–Cleveland ; 10, Cleveland–Detroit. To obtain a " perfect score " it was necessary to fly a leg in a time not exceeding 50 per cent. more than schedule time, providing at least 70 per cent. of the legs were flown in a time not to exceed 30 per cent. above the scheduled time, and provided the entire course was completed.

On September 28, seventeen competitors started, at minute intervals, from Detroit, as follows :—E. K. Campbell on Travel Air A. (100 Curtiss OXX6), C. Bowhan on Travel Air B.6 (90 Curtis OX5), Walter Beech on Travel Air B.6 (100 Curtiss OXX6), Fred Melchoir on Junkers F.13L. (185 B.M.W.), E. G. Knapp on Waco (90 Curtiss OX5), L. O. Yost on Waco (90 Curtiss OX5), J. Stauffer on Swallow '25 (90 Curtiss OX5), Earl Rauland on Swallow '26 (90 Curtis OX5), P. Lott on Fokker 3F7 (three 200 Wright BJ4), Casey Jones on Curtiss Carrier Pigeon (400 Liberty), Gy. Caldwell on Martin Commercial (190 Wright E4), L. B. Richardson on Martin Commercial (190 Wright E4), H. C. Mummert on Mercury Jr. (167 Curtiss C6A), E. C. Hamilton on Ford (400 Liberty), H. C. Etten on Laird Special (167 Curtiss C6), E. A. Goff on Laird Swallow (90 Curtiss OX5), and W. J. Addams on Yackey (90 Curtiss OX5).

Out of these seventeen starters, eleven completed the full course with a " perfect score," winning first prizes of $350 each. These " winners " were the three Travel Air machines, Yost's Waco, Rauland's Swallow, the Fokker 3F7, the Curtiss Carrier Pigeon the two Martins, the Ford, and the Yackey.

Four others also completed the course, but only won second prizes of $125, as follows : the Junkers, Stauffer's Swallow, the Laird Special, and the Laird Swallow. Mummert's Mercury Jnr. completed all but 30 miles of the circuit, and was awarded a third prize of $100, while Knapp's Waco, which was damaged in a forced landing after having completed half the circuit, was awarded a fourth prize of $75.

FLIGHT

THE ROYAL AIR FORCE

London Gazette, November 17, 1925

General Duties Branch

The following Pilot Officers are promoted to rank of Flying Officer :—C. U. G. Tristram ; Sept. 8. J. M. Cohu, A. D. McDowall, H. F. Luxmoore ; Oct. 15. G. B. M. Rhind ; Nov. 15. The following Pilot Officers on probation are confirmed in rank, Oct. 1 :—H. R. Bardon, M. Brunton, E. L. Cowan, I. G. E. Dale, F. W. Field, F. H. Hannaford, W. J. Kelly, G. J. C. Mahony, R. Matheson, T. H. Perry-Keene, V. C. Taylor, R. R. Turner.

Flying Officer L. C. Lewis resigns his short service commn. ; Nov. 18. Flight Lieut. C. Attrill, M.B.E., is placed on the retired list ; Nov. 17. The following Flying Officers are transferred to the Reserve, Class A :—A. R. M. Brain ; Nov. 15. F. P. Adams ; Nov. 18.

Medical Branch

The following are granted short service commissions as Flying Officers, for three years on the active list, with effect from, and with seniority of, the dates indicated :—G. M. Anderson, M.B. ; Oct. 28. B. L. Edwards, M.B. ; Oct. 28. W. D. McKeown, M.B. ; Nov. 3.

Flying Officer R. W. White is promoted to the rank of Flight Lieut. Nov. 12.

Reserve of Air Force Officers

The following are granted commissions as Pilot Officers on probation General Duties Branch :—Class A : R. N. Bullock, H. W. Knott ; Nov. 10. (Substituted for *Gazette* Nov. 10, 1925). Pilot Officer J. H. Taylor is confirmed in rank ; Nov. 15. Pilot Officer R. W. Jones is confirmed in rank ; July 9. (Substituted for *Gazette*, Nov. 10, 1925.) Flight Lieut. A. Roberts is transferred from Class B to Class C ; Nov. 12. The commission of Pilot Officer on probation A. N. Wells is terminated on cessation of duty ; Oct. 13.

AUXILIARY AIR FORCE

General Duties Branch

To be Sqdn. Leader (Hon. Wing Commander) :—No. 600 (City of London) Squadron :—A. W. H. James, M.C. (Wing Commander, Retired List, R.A.F.), to command the Squadron ; Nov. 17.

ROYAL AIR FORCE INTELLIGENCE

Appointments.—The following appointments in the Royal Air Force are notified :—

General Duties Branch

Group Captain.—I. T. Courtney, C.B.E., to R.A.F. Depot, on transfer to Home Estab. ; 17.10.25.

Wing Commander A. J. Miley, O.B.E., to H.Q. Coastal Area ; 2.11.25.

Squadron Leaders : G. Blatherwick to R.A.F. Depot on transfer to Home Estab. ; 25.10.25. G. F. Breese, D.S.C., to No. 2 Armoured Car Co., Palestine ; 17.10.25. P. B. Hunter, to R.A.F. Depot on transfer to Home Estab. ; 30.10.25. A. L. Gregory, M.B.E., M.C., to R.A.F. Depot on transfer to Home Estab. ; 9.11.25. J. H. Simpson to R.A.F. Depot on transfer to Home Estab. ; 17.10.25.

Stores Branch

Squadron Leader G. Stevens, O.B.E., to R.A.F. Depot on transfer to Home Estab. ; 17.10.25.

Flying Officers : R. F. Wilson to No. 4 Stores Depot, Ruislip, instead of to Record Office as previously notified ; 9.11.25. E. V. Bashford to R.A.F. Depot on transfer to Home Estab. ; 25.10.25. V. B. Ranford to R.A.F. Depot on transfer to Home Estab. ; 30.10.25.

Accountant Branch

Squadron Leader T. C. Miller, M.C., to R.A.F. Depot on transfer to Home Estab. ; 30.10.25.

Flight Lieutenants : F. W. Arthurton to R.A.F. Depot on transfer to Home Estab. ; 30.10.25. R. F. C. Metcalfe, to R.A.F. Depot on transfer to Home Estab. ; 17.10.25.

Flying Officer A. C. Lobley to R.A.F. Depot on transfer to Home Estab. 17.10.25.

Medical Branch

Wing Commanders : B. A. Playne, D.S.O., M.B., B.A., to R.A.F. Depot pending disposal on transfer to Home Estab. ; 17.10.25. W. W. Shorten, F.R.C.S. (E.) to R.A.F. Depot, pending disposal on transfer to Home Estab. ; 23.10.25.

Squadron Leaders : T. J. Kelly, M.C., M.B., B.A., to R.A.F. Depot on transfer to Home Estab. ; 17.10.25. J. T. T. Forbes to R.A.F. Depot on transfer to Home Estab. ; 30.10.25.

Flight Lieutenants' : H. McW. Daniel, M.D., to Aircraft Depot, Iraq ; 21.10.25. V. R. Smith to Heliopolis Details, Egypt ; 24.10.25. A. E. Barr-Sim, M.B., G. Kinneir, T. J. D. Atteridge, and J. C. Osburne, M.B., to R.A.F. Depot on transfer to Home Estab. ; 17.10.25.

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PRACTICAL FLYING

By M. L. BRAMSON

A PAPER under above title was read before the Institution of Aeronautical Engineers on November 10 by Mr. M. L. Bramson, designer of the Savage-Bramson anti-stall gear recently described in FLIGHT. Mr. Bramson stated in his introduction that the title of his paper had to be chosen before the paper was written, and in consequence it was rather a misnomer, since he proposed to deal chiefly with those aspects of flying which were *not yet* practical. Dealing with the safety, regularity and economy of flying, the lecturer pointed out that before one can define safe flying it is necessary to make up one's mind as to what degree of regularity is required, since a flying concern operating on fine days only naturally attained a greater degree of safety than one which endeavoured to operate on every day throughout the year. On examining the statistics published by the Air Ministry, it was found that during 1924 the regularity achieved by Imperial Airways was about 78 per cent., that of the American air mail about 94·5 per cent., while railway regularity could be assumed for all practical purposes to be 100 per cent.

If the figures were examined, it was found that the main causes for interruption or cancellation of scheduled flights were defect in aircraft, and weather. It was further found that the type of weather causing interruption or cancellation was in no case such as would actually prevent machines taking the air, but were in most cases accounted for by the fact that at present the safety of flying was absolutely dependent upon visual connection between ground and aircraft.

The lecturer thought that in the past too narrow a view had been taken of the question of economy, and that the attitude had been "economy is wanted, therefore we must economise, and the only obvious way is to reduce cost." Hence low cost per passenger-mile had been the universal bogey. Instead, we should concentrate on an increase in revenue by eliminating the reasons why the demand for flying was so limited. If those reasons were eliminated, the advantages of flying would be realised and utilised by the public. The lecturer expressed the opinion that if flying were made safe it would automatically become economical. If that view were accepted, it should be a matter of supreme importance for aeronautical engineers to collect and analyse data relating to accidents and irregularity in flying.

Mr. Bramson then quoted figures from the Report on the Progress of Civil Aviation for the period April 1, 1924, to March 31, 1925, and pointed out that the efficiency tables were based upon flights commenced instead of on flights scheduled. The lecturer had endeavoured to estimate what difference this would make in the efficiency figure given, and arrived at the conclusion that on the rational basis the figure would drop from 94 per cent. to 78 per cent., a drop of 16 per cent.

Turning to the subject of safety, the lecturer pointed out that foggy or cloudy weather were the main causes of risk, since whether a pilot chose to fly under the clouds or over them he was faced with the risk of a forced landing in a limited space in case of engine failure, so long as but a single engine was used. This constituted one of the most serious risks of flying. Another one was the danger of stalling when near the ground. If both could be eliminated the chief danger of flying would be avoided. In the case of the former risk, the remedy was to build machines in which failure of one engine would not necessitate a forced landing, and the second had already been solved by the Savage-Bramson anti-stall gear.

One more problem still remained, for which neither the anti-stall gear nor the three-engined machine presented the solution, and that was guiding the aeroplane into a fog-bound aerodrome. In this connection, the following requirements were called for : two-way wireless telephone communication between aeroplane and ground. A good altimeter with special fixed scale of datum points to which the zero of the altitude scale could be set. A direction-finding acoustical listening post, also in two-way communication with the pilot. A straight Loth leader cable of a few miles with its corresponding electrical equipment on board the machine. And, finally, direction-finding wireless equipment on the ground enabling the machine to be guided to within five or ten miles of the aerodrome. Mr. Bramson then sketched on a blackboard the scheme by which fog landings could be worked, and in conclusion said : "Suppose now, that we have in fact eliminated forced landings due to engine failure and weather ; that we have rendered it possible to find and to land on fog-bound aerodromes, and that all machines are so equipped that involuntary stalling is impossible. Then, if we analyse the circumstances which have so far led to accidents we find that they are rendered harmless. There are exceptions, but they would be of such infrequent occurrence that the safety of regular civil flying would reach, if not exceed, the railway standard."

CORRESPONDENCE

The Editor does not hold himself responsible for opinions expressed by correspondents. The names and addresses of the writers, not necessarily for publication, must in all cases accompany letters intended for insertion in these columns.

"THAT CURTISS PURCHASE"

[2102] WHILE I commend an anxiety to present "the other side" of a case, it seems to me that in this case there is very little "other side." It is a mere quibble to say that the Curtiss engines were ordered as part of a number of complete aeroplanes. The Air Ministry knew what engines were to be fitted in those machines. The Air Ministry is, indeed, to blame, and not the firm whose action has waked everybody up.

But for service use a machine ought to be made entirely in this country. Now in this instance there is no prospect of the engine being made here in time to forestall British designs now in hand. I can assure you that British engine firms have approaching completion types of engine possessing the features which have won the Curtiss the recent British order. If the Air Ministry had given the word, those engines would have been ready for flight tests today.

Exhaustive tests by a Squadron under service conditions! Yes, but there are very, very few squadrons available for that sort of thing, and everyone of these given to the testing of a foreign product means one less for British work. Already we hear of a demand for a second service squadron for the testing of another new aeroplane with a foreign engine. The country cannot afford it; and the Air Ministry must be more consistent.

P.H.

[2103] It is not with any passionate intention to subject the Air Ministry to any vicious criticism that one has raised a protest against the purchase of those Curtiss engines, nor is it with any such intent that one feels it incumbent to make reply to the letter of Mr. Geoffrey de Holden-Stone which appeared in the issue of FLIGHT of the 19th inst.

Your correspondent, one might remark *en passant*, is surely under a misapprehension when he refers to an order for 30 Fairey "Foxes," for I believe that he will find that a much smaller number has, in point of fact, been ordered. But 30 American Curtiss D.12 engines were ordered, and whether one is to take the slogan "Buy British" seriously or otherwise, the economic fact remains incontrovertible that this means that about £60,000 goes out of this country to America, to the advantage of employment in that country and to the detriment of Britain, where, one would respectfully submit, it is much more needed. Your correspondent would, I think, in the interests of truth, agree that in that way hardly lies the path to the restoration of industry in this country, and the maintenance of a flourishing aircraft trade.

But that £60,000 is not all. That is not the full assessment of the damage that has been done to British employment. That order of the Air Ministry must inevitably detrimentally affect the prestige of British aero engines throughout the world, and it is not inconceivable, since the Air Ministry has, inferentially, suggested that the British product is not equal to that of the United States, that orders from other countries which would have found their way here will now go across the Atlantic. All of which must make for greater unemployment, and, if only for that, one feels, both as an ex-member of the R.A.F. and a taxpayer, who has to find the money both for the Curtiss order and for the unemployment benefit for those who are affected by the Ministry's action, that one is entitled to register a vigorous protest.

But there are still stronger grounds upon which it is possible to build up one's case. Nothing could be more indefensible than that the conditions of the order are not the same as would apply to a production order given to a British aero engine manufacturer. Unless one is misinformed—and there has not been a single denial of the statements that have been made repeatedly in the press during the past weeks—it would appear that a very substantial preference was given to the American type, in that the 100-hour type test and the British Air Ministry inspection conditions laid down in respect of such an order to a British manufacturer were not made compulsory, and, in fact, were not passed for the American. One does feel that no other Government in the world would make the way easier for foreign rivals than for its own manufacturers, who, after all, are taxpayers.

When your correspondent remarks, apropos the Schneider Cup race, "Was not the Schneider Cup itself a sufficient warranty for the performance of the Curtiss?" it can only be supposed deferentially that he is ignorant of the full facts. Because this matter is one of supreme importance, not merely to the aircraft industry, but to the whole country, might indulgence and space be craved to re-state the facts? Let it be added, by way of explanation, that one has read a score of accounts in *American* newspapers of the contest. The United States had three machines in the race, but only one of these finished. The other two were unable to complete the course because engine trouble developed. This would certainly suggest to the analytical mind a degree of unreliability somewhere, and it can hardly be in the mind of Mr. Geoffrey de Holden-Stone that on such a test the Ministry is entitled to place orders for 30 engines. Having read and re-read the letter at least half-a-dozen times one can reach no other conclusion than that this is, indeed, what is meant.

Then, again, your correspondent is doubtless aware that it is not Curtiss engines of the type used by the winner of the Schneider trophy which have been ordered by Sir Samuel Hoare's department. Or, possibly, this may not have occurred to him. The Curtiss D.12 type, which are to be used in the "Foxes," were truly used in the race—by the Italians—and their relative performance would hardly justify the Air Ministry's action. One of the Macchi flying-boats could not start owing to engine trouble—as was reported at the time—and the other one, although brilliantly piloted, was quite easily beaten by the British machine—the Gloster-Napier III—by some 33 m.p.h. And it is a debatable point whether the single British representative in the race was the faster of the two machines entered.

Against these facts regarding the performance of the Curtiss in the Schneider Cup race one has it that the British Napier engine gave no trouble at any time, and a reference to the American papers will show that the pilot of the British entrant stated on completion of the course that his engine "ran like a dream."

The Air Ministry has taken an unjustifiable action, and has created a dangerous precedent, and if your correspondent seeks to find a defence for the department in the Schneider Cup race then one can only submit that he has but the flimsiest structure upon which to build his case. It is, indeed, like unto he who built his house upon the sand.

Farnham Common, Bucks. GILBERT BARNETT
November 21, 1925.

PUBLICATIONS RECEIVED

The Strategy and Tactics of Air Fighting. By Oliver Stewart. Longmans, Green and Co., 39, Paternoster Row, E.C. Price 6s. net.

The Morris Gravity Conveyor. Herbert Morris, Ltd., Loughborough.

AERONAUTICAL PATENT SPECIFICATIONS

Abbreviations: Cyl. = cylinder; i.c. = internal combustion; m. = motor. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

APPLIED FOR IN 1924

Published November 26, 1925

4,612. F. L. M. BOOTHBY. Aerial torpedoes. (241,958.)
15,563. LUFTSCHIFFBAU ZEPPELIN GES. Rigid airships. (222,082.)
17,774. SUPERMARINE AVIATION WORKS, LTD., and R. J. MITCHELL. Launching and landing apparatus for flying boats. (241,977.)
26,062. W. BEARDMORE AND CO., LTD., and W. S. SHACKLETON. Landing strut for aeroplane undercarriages. (242,073.)
28,754. DORNIER METALLBAUTEN GES. and C. DORNIER. Staying floats for aircraft. (226,191.)

APPLIED FOR IN 1925

Published November 26, 1925

372. ANTI-STALL, INC. Electric starting devices for engines. (242,115.)
12,265. J. COMTE. Propellers. (234,102.)

FLIGHT

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